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Achievement of a uniform interpretation of the right of self-defence in conformity with the Charter of the United Nations as applied to outer space as a factor in maintaining outer space as a safe and conflict-free environment and promoting the long-term sustainability of outer space activities

Working paper submitted by the Russian Federation*

- **Issues of the safety of space operations are closely interrelated with the development of guidelines for preventing conflict situations (conflicts of interests) in outer space**

1. The development of guidelines for ensuring the long-term sustainability of outer space activities, in objective terms, sets a new vector in moving towards achieving the goal of highlighting the needs associated with the safety of space operations and the security of space activities in general. Thanks to the ongoing work on these issues, as well as the results of the work of the Group of Governmental Experts on Transparency and Confidence-Building Measures in Outer Space Activities, it has largely become possible to create the systemic background that makes it worthwhile addressing all aspects of ensuring such safety and security in greater detail, given that good and useful ideas and proposals, both those already formulated and those being prepared, can be transformed into standards of conduct, provided a common concept, logical implementation approach and the required regulatory capacities exist.

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- **Joint check of the procedure for recourse to, and of the scope of the right of, self-defence in outer space should be appropriately correlated with the task of maintaining outer space for peaceful purposes and should add functionality to potential solutions in this area**

  2. The proposal to consider the legal basis and modalities for exercising the right of self-defence envisaged by the Charter of the United Nations, as applied to outer space, under the priority item on the agenda of the Committee on the Peaceful Uses of Outer Space concerning ways and means of maintaining outer space for peaceful purposes, addressed to the Committee in June 2013 in a working paper submitted by the Russian Federation (A/AC.105/C.1/L.338), has an important meaning that should be interpreted correctly. This initiative does not in any way contradict the fundamental value of preserving outer space as a conflict-free environment; on the contrary, it is aimed at streamlining the logic of studying the interrelationships among all security factors in outer space and designing a joint systemic approach to ensuring such security. It could become an appropriate area for the efforts of both the Committee, which has long been searching for its own identity in defining ways and means of maintaining outer space for peaceful purposes, and its two Subcommittees. This working paper should not be associated with a statement or implication of policy principles or interpreted as necessarily representing, in its entirety, a definitive official position on any particular aspect of the issue addressed. It is, rather, part of the ongoing effort to break the stalemate in the Committee's discussions on ways and means of maintaining outer space for peaceful purposes and to assist in finding opportunities for establishing common criteria to deal with the problem of self-defence in outer space and reaching an agreed and comprehensive understanding of how to avoid the unchecked discretion of States in their interpretation of such self-defence.

- **Interpretative approach to the provision of the Charter of the United Nations on self-defence, as applied to outer space, as an alternative to the practice of departing from that provision**

  3. It can be assumed fairly confidently that some delegations to the Committee on the Peaceful Uses of Outer Space believe that discussing the issue of self-defence in outer space will, in and of itself, call into question the positive identity of contemporary international space law, while others regard any potential international arrangement on this issue as a threat of the establishment of *jus belli* in the space field. Such an understanding characterized by a lack of trust with regard to analysis of the issue of self-defence in outer space needs to be corrected. First, the exploration and use of outer space are regulated by international law on the basis of the Charter of the United Nations. Accordingly, the principle of self-defence does not in itself constitute an exception in this general context. Second, categorically denying the utility of addressing legal and other aspects of self-defence in outer space does not really seem reasonable when the evolving national architecture of security in outer space in a number of cases can hardly be deemed fully consistent with the principles of the Charter of the United Nations. Evidently, self-defence is increasingly being used as a generalized political and technical concept rather than an international legal notion. Consequently, there is a danger that States will not always be inclined to bring their strategies of self-defence in outer space into strict conformity with the provisions of the Charter of the United Nations, a situation which would promote discretionary regulation in this area. What is at stake is not

the advisability of addressing this issue but whether such good cause may be problematic when international policymaking is increasingly determined by geopolitical interests that have a clear extension to outer space activities. That said, States should nevertheless pay particular attention to this issue, take a sober and comprehensive look at it and attempt to make a common judgement on the legal basis and modalities of self-defence in outer space. Doing so would truly demonstrate that States are taking a responsible approach to the use of outer space.

- **Compelling need to pronounce on the situation and preferably work out an understanding based on a consistently formulated and integrated opinion**

4. The Russian Federation believes that the States members of the Committee are capable of identifying positive avenues of cooperation in this sphere that could be focused on reviewing and jointly elaborating political and legal methods to ensure lawful and responsible interpretation of the right of self-defence as applied to outer space and agreeing on a vital complex of objective assessments and conclusions shared by all. It would be useful to understand how the category of self-defence is understood in terms of political and technocratic logic and what could be the consequences of a "free interpretation approach". Ambivalence characterizing interpretations of the substantive aspects of the issue of self-defence in space is revealed in the associations developed and the conclusions reached by academia, as well as in the diverging national regulations in this sphere. There is no certainty that the core self-defence criteria according to the Charter of the United Nations are being followed in the framework of national policy documents and will be properly considered in practice. The international community needs a set of tools to solve the issue of maintaining outer space for peaceful purposes. Accordingly, the self-defence issue should be given careful thought by the Committee. The maintenance of basic standards in the sphere of law and security should include the function of a qualified interpretation of the principle of self-defence in outer space in full conformity with the basic tenets of international law, enshrined first and foremost in the Charter of the United Nations.

- **General vision of results sought**

5. In considering the particularities of a hypothetical use of a right of self-defence in outer space, the aim would be to prepare, in a multilateral format, a conceptual approach reflecting the balance of views and interests that surely exists in this sphere and is not to be neglected. It would also be useful to elaborate and, ultimately, adopt regulations (even if non-binding regulations) that would, as far as their concept allows, narrow down the prerequisites and grounds for random, biased and politically motivated interpretations of the principle of self-defence as applied to outer space, thus providing baseline "safeguards" and mechanisms to prevent critical risks. Considered as a whole, the task should be to devise methods of adequate and proportionate response to situations in outer space that are not ordinary in technical and legal terms.

- **References to self-defence in international practice and in national doctrines**

6. References to the right of self-defence provided by the Charter of the United Nations are not rare in international treaties. For example, the still-valid Agreement between the United States of America and the Union of Soviet Socialist Republics

on the Prevention of Nuclear War of 22 June 1973 stipulates that it is without prejudice to the inherent right of self-defence in accordance with Article 51 of the Charter of the United Nations. It is presumed that, in making such reservations in international treaties, States undertake full responsibility for making a perfectly right decision on the existence of a legal basis for considering any given situation as justifying practical self-defence. The right of self-defence appears in the draft treaty on prevention of the placement of weapons in outer space, in the code of conduct for outer space activities and also in a number of national doctrines on outer space activities. The doctrines of various States are characterized by associating self-defence not only with Article 51 of the Charter of the United Nations but also with customary international law and with the rules of behaviour in this sphere that have presumably evolved in international practice and are considered legally binding by those States. Thus, it would be useful to gain an overview of concepts that are typical for certain countries and that justify the use of self-defence in the event of "imminent danger/urgent necessity". It should be noted that such notions are not employed in the Charter. The circumstances invoked require elaboration of a common understanding of how the right of self-defence could be realized in outer space in a hypothetical scenario. Otherwise, different interpretations of the legitimacy and mechanisms of such a right in specific circumstances would only increase threats in the case of incidents and conflicts of interests in outer space. Such incidents and conflicts do not necessarily have a military character — they may be caused by a malfunction, wrong decisions due to lack of information or specific competition factors. On such occasions, States and their policymaking establishments, when reacting to a particular negative situation in outer space, may adopt decisions that are not completely appropriate from the point of view of proportionality of reaction. To leave the problem of interpretation of the right to self-defence unresolved would only serve to increase potential risks of trouble in outer space that cannot be completely excluded.

- **Dominance in outer space holds sway over some national doctrines**

7. The Charter of the United Nations contains quite clear criteria for understanding the general idea, modality and functions of the concept of self-defence. Nevertheless, the evaluation criteria that may be used by States to decide whether there are grounds for exercising the right of self-defence as applied to outer space may vary in each individual case, depending on the system of national interests and priorities that are formed largely on the basis of national political culture. There is therefore a divergence of the principles and maxims applied in interpreting such right of self-defence and, accordingly, of approaches and technical decisions that are being elaborated, planned and realized on the basis of national policy documents and that add strategic content to self-defence as a political principle. Some of these documents indicate an expanded interpretation of self-defence to include preventive actions (even though preventive self-defence is not permitted under the Charter of the United Nations). They also suggest that the proportionality that should be included in the range of restrictions on realization of the right of self-defence is not always properly presumed. There are cases of legitimization of the use of the right of self-defence in the absence of an armed attack (prior to the development of circumstances associated with an armed attack). The operational and strategic components of a number of doctrines provide for a broad range of measures and activities based on an absolute interpretation of

preventive/anticipatory self-defence. Such doctrines suggest that, firstly, the self-defence function, its "technical" meaning and, accordingly, the tactics, motivation and legitimacy of involving coercive measures are largely defined by national policy documents and, secondly, self-defence perceptions, being susceptible to change (due to political and other reasons or evolutionary development), do not in fact allow adherence to the principle of a unified interpretation of self-defence and do not ensure the vitally important stability and clarity of this norm of the Charter of the United Nations as applied to outer space.

- **Non-use of force and self-defence**

8. The interpretation of the principle of self-defence in its extrapolation to the domain of outer space needs to be dealt with collectively and reasonably so that this area does not remain a "zone of reticent comments". The ultimate goal of such efforts would be to clarify all the parallels and interactions between this principle and the equally universal principle of the prohibition of the threat or use of force. A straight statement of the issue of applying the above two universal principles of international law and establishing a clear correlation between them would seem to offer an opportunity to reach a common understanding of what should be the pattern of behaviour and the logic of actions for States, and which considerations and ethical standards they should be guided by in this sensitive area. Such an understanding — if it took the form, for example, of potential guidelines dealing specifically with this subject — would play a definite practical role in the frame of reference of real politics, thus preventing States from falling into a system of contradictions and disproportionate reactions to possible crisis situations. It could also help ensure that existing and future concepts of the use of space approved at the national or international levels (in the context of bloc/allied relations) that vest States with discretionary functions and powers do not acquire a dangerous "autonomous" dimension divorced from the fundamental principles, laid down by the Charter of the United Nations, which regulate lawful use of corrective and enforcement action. Such a common understanding would preserve the fundamental premise that there can be no reasonable alternative whatsoever to the system of international law and that legal means should take absolute priority over political considerations.

- **References to self-defence in current initiatives pertaining to security in outer space**

9. As noted above, the draft treaty on prevention of the placement of weapons in outer space and code of conduct relate to the topic of self-defence. A radical difference between the two documents lies in the context of references to self-defence. In this sense, they take different or in fact opposite approaches to self-defence. The draft treaty on prevention of the placement of weapons in outer space sets out legally binding rules; their implementation, within the proposed legal regime (outer space without weapons), would ensure the ban on the placement of weapons in outer space and on the use or threat of the use of force against space objects. The draft treaty on prevention of the placement of weapons in outer space contains a clause stating that its provisions shall be without prejudice to the right to individual or collective self-defence, in accordance with Article 51 of the Charter of the United Nations. The implementation of the treaty would significantly narrow incentives to the hypothetical exercise of the right of self-defence. The draft code of

conduct provides for a much broader exercise of the right of self-defence. The way this principle is supposed to be "activated", according to the document, raises serious concerns. The intrigue lies in the provisions of the draft code of conduct that stipulate that subscribing States shall refrain from any action that might bring about, directly or indirectly, damage to, or destruction of, space objects unless such action is motivated, other than by the Charter of the United Nations (including the right of self-defence), by the interests of reducing space debris or by imperative safety considerations. In addition, of key importance is the fact that the document does not specify whether such an intention of States concerns their own space objects or foreign ones as well. It turns out that, in actual fact, it is entirely a question of reserving the possibility of using coercive measures, including for the "good cause" of reducing space debris, without obtaining the consent of a State which exercises jurisdiction and control over space objects in accordance with international space law. As a result of such legitimization, unauthorized measures may essentially cease to be considered an international wrongdoing. In the context of prioritizing within the framework of the draft code of conduct, the factor of self-defence ceases to be an exception to the general procedure of ensuring security, which is based on the non-use of force, and becomes part of some kind of new foundation for taking coercive measures in outer space. An assessment is needed — in relation to the Charter of the United Nations and other universally recognized principles and norms of international law — of the adequacy of the proposed approach and the desire to establish a kind of right to take actions which may have "the effect of the use of force". Such "reconstructions" of the basic norms of international law can reasonably be regarded as conflict-provoking.

- **Reinterpretations of international law to fit policy**

10. In a general legal sense, the concept of a "code" is associated with a systematically structured set or systematically organized review of regulations or with a set of existing laws, together with an unwritten law pertaining to a specific issue, that form an integral regulation system. Assuming that the draft code of conduct will to a large extent have the status attributes of a fundamentally new set of rules (including by comparison with the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies), the scheme for the exercise of the right of self-defence provided for by that document (together with a greater emphasis on practising coercive measures under other pretexts) and for making self-defence a common option objectively calls for careful analysis. Such models and concepts for creating — on the basis of a rather specific understanding of the relationship between the categories of legality and expediency — a new architecture of "constructive interventionism", formally dictated by reasons of safety of space operations, will lead (by way of response) to the development, in the framework of national doctrines of outer space activities, of concepts of extended deterrence, with more active forms of counterforce planning aimed at entailing high risks for unauthorized supra-jurisdiction actions against foreign space objects. An expanded positioning of coercive measures, which is characteristic of the draft code of conduct (when coercive measures in self-defence and similar measures dictated by considerations of reducing space debris are treated as equivalent to each other in one and the same context), will quite predictably contribute to fostering the tendency to blur the line

between the actual case of self-defence and other essentially unrestricted manifestations of approaches based on the use of force.

- **Coherence in terminology**

11. Rational decision-making modes in the area under consideration make it necessary to resolve the issue of terminology, which clearly has a tendency to develop fairly chaotically. Clarification is needed of a number of notions which are used both in the framework of the existing international space law and more broadly, for example, in the draft code of conduct, as well as in national policy documents on outer space. Important aspects of studying problems that exist in this area are related to such categories as "harmful interference", "hostile interference", "prohibitive interference", "malicious impact", "hostile events", "interference", "attempt to interfere", and "state of danger/tension/threat". For instance, the term "harmful interference", which is quite appropriate in the framework of the general political guidelines stipulated in article IX of the 1967 Outer Space Treaty, acquires a different meaning in the draft code of conduct because harmful interference is actually posited as a reason for unauthorized supra-jurisdictional coercive measures against foreign space objects. Obviously, this concept, which is not elaborated in detail in the fundamentally different context, would predictably be interpreted in different ways depending on the circumstances. The task of developing workable standard definitions is also relevant to the work on the long-term sustainability of outer space activities.

- **Substantive conditions for resorting to self-defence**

12. Qualifying any behaviour (action) of a State as self-defence primarily involves the problem of interpretation and application of Article 51 of the Charter of the United Nations and other provisions thereof that form the system for maintaining international peace and security. In connection with outer space activities, this problem should also be considered directly in relation to the principles and norms of international space law, taking into account "strong" points as well as a certain incompleteness of the legal regime on outer space. The right of self-defence according to the Charter of the United Nations specifies a potential and real possibility of a sanction in response to an armed attack against a State. This sanction is to be implemented through actions objectively connected with the counter-use of force. Article 51 of the Charter provides for the most dangerous threat to the existence of a State, that is an armed attack, being grounds for recourse to self-defence. In this case, self-defence as a legitimate coercive measure should be interpreted, essentially, as an exception to the general prohibition of the use of force or the threat of force and simultaneously as a means to secure the norm to refrain from the use of force in the form of an armed attack. In any case, self-defence should be a follow-up to a wrongful act on the part of another State. In formal legal terms, there is no intermediate stage between an armed attack and the use of the right of self-defence: a State can immediately react in its own defence in the form of self-defence. The history of the drafting of the Charter, including records of the relevant negotiations, testifies that it was supposed at that time that the right of self-defence may not occur prior to an armed attack.

- **Sovereignty and sovereign rights**

13. Beyond the characteristics stipulated by the Charter of the United Nations concerning illegal use of military force when such act threatens the territorial integrity or political independence of a State, the sovereignty of a State also appears in the definition of aggression adopted by the United Nations General Assembly (resolution 3314 (XXIX)). This is completely logical because territorial integrity and political independence may become targets of wrongful acts or be threatened by such acts precisely as a result of encroachment on sovereignty, i.e. the full authority of a State over its own territory. Although there is no complete list of criteria to determine the prohibition of the use or threat of use of force in international relations, the Charter stipulates that States should refrain from the threat or use of force not only against the territorial integrity or political independence of any State but also in any other manner. Such an important reservation obviously includes any actions preventing the exercise of sovereignty. The notion of sovereignty is naturally and inherently connected with the notion of sovereign rights that derive from the essence of sovereignty and denote the specific rights of a State to extend its power over the objects or actions of individuals and legal entities not only within its territory but also outside it, as should be specifically stipulated by international treaties. One of the sovereign rights of a State consists in exercising jurisdiction and control over space objects according to the norms of international space law. Attention should be paid to the fact that such a notion as "sovereign potentials" in outer space is encountered in national space doctrines. The prohibition of the use or the threat of use of force according to the concept stipulated by the Charter of the United Nations extends, inter alia, to actions aimed at preventing (restricting) the exercise of sovereignty. Although an intimate connection between sovereignty and derivative sovereign rights is not in doubt, the view is expressed in international legal doctrine that it would be mistaken to identify the exercise of sovereign powers with sovereignty itself. It would be fundamentally important to clarify whether States hold the view that restriction of their sovereign rights in the case of unauthorized negative influence on their space objects or destruction of such objects means, in precise terms, encroachment on the sovereignty of those States, resulting in a situation whereby the exercise of sovereignty is prejudiced.

- **Threats in information space**

14. The task of clarifying legal grounds for actions by way of self-defence as applied to outer space is objectively related to the problem of the study of international legal aspects of conflicts in information space and the potential adaptation of existing and development of new principles and norms of international law (including humanitarian law) as applied to information and communications technology (ICTs) and related infrastructure. This refers to unauthorized and/or malicious impacts involving ICTs and affecting information and communication networks and information transmitted via such networks, which represent a core integral part of the management of key infrastructure objects — not only military objects but also objects containing dangerous forces (according to the concept formulated in international humanitarian law). Relevant issues related to objects that form and service satellite constellations will require special consideration. Generally recognized criteria for identifying important characteristics of the concept of "confrontation" in this sphere have not yet been established. It is not clear whether it is actually possible, and under what hypothetical conditions, for special

actions/operations of the relevant type and intensity with the use of ICTs to fall within the categories of "use of force" and "armed attack" under the Charter of the United Nations. It is yet to be clarified how to define the threshold of harm such that going beyond that threshold would, first, mean changing the status of malicious actions (confrontation) in this sphere into that of military (armed) conflict and, second, make it possible to regard the relevant actions/operations as a "use of force" or "armed attack" or "act of aggression". The international community has not come up with complete solutions in this area. Information and telecommunications space (understood as the outer space information systems/means whose functioning and standard operation procedures may be influenced by the use of ICTs) is already considered not only within the expert community but also officially, in the context of some policy objectives, as being one of the areas of warfare. However, a general concept of "military/armed conflict in information space" has not yet been developed. Given that the phenomenon is a relatively recent one, the parameters of resisting attacks involving ICTs are not regulated by international treaties, and relevant international legal practice has not yet been established. Nevertheless, there exists a precedent-setting decision to recognize, at the national level, information space as one of the areas of warfare, along with ground, sea, airspace and outer space and, consequently, to substantiate the right to use armed force in response to an impact involving ICTs. There is also a discernible tendency to place the emphasis on applying the same norms of law in this area as in any other and, consequently, to permit the conduct of operations with the use of force in response to an attack. Drawing up a typology of actions which could, in a preliminary way, be qualified as "aggressive actions in information and communications space pursuing military purposes" will need attention as a separate major problem with a real application to outer space. This refers to situations connected with purposeful interference in space radio links that exceeds levels permitted by the Radio Regulations of the International Telecommunication Union and leads to the disruption of normal functioning of spacecraft; gaining unauthorized access to radio links and on-board control systems of spacecraft; and undertaking intended actions that impede the use of information transmitted from spacecraft. Information is key to ensuring the safety of space operations (the domain of ensuring the long-term sustainability of outer space activities) and devising effective measures to preserve outer space as a peaceful and conflict-free environment. In any context, if the needs in this area are evaluated in their totality, the aim is for international regulation to provide adequate guarantees for: security of channels of communication interaction (exchange of information in the interests of safety of on-orbit operations); security of spacecraft control systems (understood not only as implying implementation of design and engineering solutions but also as a set of procedures agreed by States and aimed at preventing malicious influence); and completeness, reliability and timeliness of transfer of information on objects and events in outer space (not only for safety reasons but also to prevent potential conflicts that arise from misinterpreting situations resulting from technical breakdowns or equipment failures).

- **Merging of military, civil and entrepreneurial activities**

15. Outer space was not initially considered an area of application of the international law that is used in armed conflicts and imposes restrictions on applying means and methods of armed combat. Rules set in this branch of the law include, among other things, a differentiation of military facilities from non-military

facilities. As for international space law, the 1975 Convention on Registration of Objects Launched into Outer Space does not require space objects to be characterized from the point of view of their military or civil purpose. There is no common practice of registering space objects indicating their military nature: not all States identify the purposes of space objects launched by them. It should be taken into account that, in practical terms, defining separate categories of space objects may be complicated, considering the dual use of many of them, the increasing pattern of launching space objects with a declared civil purpose with hosted payloads of a military nature, as well as the new, unprecedented tendency for private companies and military agencies to co-finance the development and operation of space objects. Thus, it is practically impossible to make the status of certain space objects subject to special legal regulation. In relation to space activities, it is basically highly questionable to apply a "selective approach" to civil and military objects, since in outer space a potential conflict can escalate immeasurably faster than in other areas. This proves that, in relation to outer space, a comprehensive solution to the problem of safety and security should be sought in another dimension through realizable and functional decisions. For example, in the light of United Nations General Assembly resolution 62/101 (on enhancing the practice in registering space objects) and the formally existing consensus concerning the feasibility of initiating practical steps to achieve the objectives declared therein, some countries will have to make a decision to re-evaluate their practice of not furnishing information about the location of objects in outer space by the time they enter operational orbit.

- **What is the future role for proxy actors?**

16. In accordance with the Charter of the United Nations, prohibition of the use of force applies to international conflicts in which parties are subjects of international law. In this connection, it is necessary to understand what would be the status of those non-governmental entities (and their assets in space) that act as proxy actors in the interests of, with the knowledge of, and/or under instructions from States in the event of a hypothetical conflict or conduct of activities that do not meet the legitimacy criteria. Although the 1967 Outer Space Treaty provides that activities of non-governmental entities in outer space shall be authorized and continuously supervised by the relevant State Party to that Treaty, it would be appropriate to consider the grounds for rendering qualification to certain types of action that are carried out by such non-governmental entities (in particular with the aid of space objects belonging to them or managed by them) and may require reciprocal actions, including in self-defence. In this sense, a disorienting regulatory system may arise if a certain number of States adopt the Code of Conduct containing provisions addressed above. Obviously, making unauthorized supra-jurisdictional impacts on space objects under any ownership and jurisdiction a policy instrument, as postulated by that document, will quite possibly be ensured, inter alia, by precisely such proxy actors (the draft code of conduct even makes reference to some unidentified established actors in the field of safety of space activities). The thesis promoted by some delegations to the Committee on the Peaceful Uses of Outer Space concerning the need to ensure direct access to national (public and private) operators of space objects for foreign entities dealing with security in space "fits perfectly" into such a system of relations. In this context, it should be borne in mind

that some national space doctrines assume that non-State entities may represent a "potential adversary" in outer space.

- **Need to uphold the virtues of, and provide, in full measure, continuum with, the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques**

17. The sustainability of the space technosphere is in no small degree determined by space weather factors. Changes in space weather, including those due to deliberate intervention, can lead to loss of functionality of a space object. For this reason, strict adherence to the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, which was opened for signature on 18 May 1977 and entered into force on 5 October 1978, is essential. As technology advances, it is important to ensure stability and clear application of norms under the Convention and interpretation of the Convention in all required restrictive senses. To be confident of the fact that the problem of eliminating a targeted negative impact on near-Earth space has a convincing solution, the interlinkage would have to be established between the guidelines for ensuring the long-term sustainability of outer space activities (in part relating to space weather issues) that are being developed and the Convention and its implementation mechanism, which together constitute a trusted regulatory framework. In the context of the guidelines, it would be important to uphold the virtues of, and reaffirm strong adherence to, the Convention and to give an indicative list of actions that cause or could cause damage to the space environment within the meaning of the Convention. Such efforts would be in line with the common desire to eliminate any random and careless practices not only by States but also by the widening circle of "new space actors".

- **Non-idle questions and non-abstract speculations on the topic**

18. In connection with the above, it would be appropriate to consider some situational scenarios using well-defined analytical and analysable technical, political and legal categories. It is necessary to identify, on the basis of measurable objective criteria, central issues which could be analysed as part of various cycles of work on the topic of self-defence in space. The first step towards developing a detailed approach to international legal aspects of self-defence in space could be to list basic questions, such as the following:

- Is it possible, for the purpose of better defining the legal grounds for self-defence in outer space, to distinguish, in principle, between the two situations — a conflict situation in outer space as a continuation of an armed conflict on Earth and a conflict situation in space as an independent (separate) phenomenon?

- What would be the nature and characteristics (including severity) of a violent act that could be regarded as an armed attack, such that the right of self-defence with respect to outer space could be legitimately used (realized)? What actions of a technical nature could make it possible to qualify a violent act as an armed attack?

- Are States ready to adhere to the understanding that the threat of an attack on a space object which is under the jurisdiction of another State, or the threat of

implementation against such an object of coercive measures not related to the use of force, entails the international liability of the wrongdoer but does not provide legal grounds for exercising the right to self-defence? Given the duty of States to refrain from reprisals associated with the use of force, which other types of reprisals may be carried out in the context under consideration, and how can their legitimacy, nature and conditions for implementation be assessed?

- What is the concept of force and how it evolves in relation to the domain of outer space, taking into account modern technological capabilities, including in the military sphere (potential for not "military" but purely technological operations/activities that can create a "weapons effect" and a "use of force effect")?

The classification of an offence (entailing a sanction in the form of coercion) either as an international crime (act of aggression) or as an international wrongdoing, as well as the definition and implementation of algorithms for influencing and managing crisis situations in outer space, would be contingent on the answers to these questions.

- **Advisability of approaching security realities with due prudence and on a rational basis**

19. The annex to this working paper contains a table which makes it possible to rationally streamline and make orderly the observations on the topic of security in outer space and to bring a measure of systematic order to the analysis thereof. Considering the aggregate of pertinent issues in the proposed perspective will make it possible to focus primarily on obvious aspects of outer space security which are implied in the discussion of, and would be conclusively necessary to be factored into, the concept of ensuring the long-term sustainability of outer space activities. It may be expected that a rational order will thus be infused into the consideration and ascertainment of a structure, threshold criteria and ways and means of countering risks and threats of contingencies which are not directly or predominantly linked to the problem of man-made space debris and which may be a result of certain intentional actions into outer space. The types of activities in question are those conducted in outer space which, as practice shows, are carried out by certain States on quasi-legal grounds or on the premise that such activities are not circumscribed by international law. More precisely, these are the practices associated with non-public (referred to as "clandestine" in some doctrines) operations in outer space, which may affect space objects under foreign jurisdiction and/or control. As part of such operations, actions aimed at tracking and/or influencing events in outer space are carried out. Some of these actions may represent episodes only; others may be of a more persistent nature. Usually, such activities are based on concepts of achieving supremacy in outer space (as interpreted by specific States). Such supremacy is envisaged as being mainly achieved by creating the capacity for adversely affecting foreign space objects. Thus, conditions are created in reality for justifying the admissibility of impeding space operations carried out by other States. There are examples of "measured" practical interference with the operation of systems under foreign jurisdiction and control, namely activities which are not accompanied by overwhelmingly aggressive manifestations. Consequently, an attempt should be made to demarcate differing situations and scenarios conditioned

by such types of actions, and assign to each of them a set of plausible and rational actions aimed at mitigating risks and threats. Such demarcation would fulfil, for political actions, the highly important function of, inter alia, forestalling any adverse development of the situation in outer space. A potentially wide outreach of the topic of space security issues in its expanded format would be unprecedented in the context of international relations. Focusing work under this topic on the development of guidelines rather than defining recommendations and ideas would be warranted in practical terms. The Committee could make its own special contribution to defining the best way of converging the experience being acquired within different forums engaged in work on space security matters and its release into policy in the form of practical and sufficiently effective space security safeguards. Regardless of the prospects for achieving consensus within the Committee on the need to analyse space security issues more thoroughly in the way indicated above in this paragraph, it is necessary to try to include, at least at a minimum required level, some of their aspects in the concept and guidelines for ensuring the long-term sustainability of outer space activities. If general agreement is reached, it will be possible to study the issue of developing a separate dedicated instrument (in the form of an understanding, guidelines or articles) which could provide additional mechanisms for exerting, through a set of positive responsibilities, a moderating and restraining influence on certain activities that could potentially (predictably) be capable of provoking conflicts. As headway in the two above areas is made, it will become clear whether the issue of self-defence in outer space is susceptible to collective uniform interpretation.

- **Charting the way to addressing those aspects of the long-term sustainability of outer space activities that relate to space security**

20. As of February 2015, the draft guidelines for ensuring the long-term sustainability of outer space activities that relate to safety of space operations are distinctly less persuasive as compared to the tasks facing the world community in this area. This mismatch should be eliminated. The working papers submitted by the Russian Federation give a rather detailed description of added elements and features of the concept and guidelines for ensuring the long-term sustainability of outer space activities. In order to show the existing objective interlinkage between factors involved in ensuring the long-term sustainability of outer space activities and space security, the Russian Federation submits, for consideration by the Scientific and Technical Subcommittee, the text of a potential guideline (in original versions in English and Russian). Although such a regulation model would not create special legal regimes providing for comprehensive solutions, the approaches adopted in the draft guideline could serve to determine, in the foreseeable future, an international baseline level for implementing the required safeguards when carrying out space operations.

Draft guideline

Implementation of operational and technological measures of self-restraint to forestall adverse developments in outer space

As part of defining, validating and supporting their space operations' tasks and requirements and space security-related guidance, operational principles and procedures, as well as identifying and employing appropriate capabilities in

establishing and satisfying the needs in this area. States and international intergovernmental organizations should ensure that their related governmental agencies and establishments, respectively, as well as involved non-governmental entities under their jurisdiction and/or control, have a basic awareness of the need to align the objectives sought and the means employed by them with criteria and requirements attributable under international law, including the principles and norms of the Charter of the United Nations and the provisions of article IX of the 1967 Outer Space Treaty, and should make sure that such operations do not foster conflicts of interests and are not intrusive with regard to foreign space objects, unless such interference is expressly agreed to by the States or international intergovernmental organizations that exercise jurisdiction and/or control over them.

In undertaking space operations with a view to gathering information to acquire insight into objects, events and situations in near-Earth space orbit through required general surveillance and monitoring, which may presumably involve approaches at relatively short distances and flybys in close proximity compromising the safety and security of foreign space objects, States and international intergovernmental organizations should elaborate practical and effective safeguards to forestall adverse developments by restricting discretion in the use of techniques and selecting alternatives that would best satisfy the safety and security needs of foreign space objects.

To avoid the development of tensions or situations in outer space that could necessitate appropriate responses potentially involving procedures under Articles 2, paragraph 4, and 51 of the Charter of the United Nations, States and international intergovernmental organizations, by taking full cognizance of limitations derived from international law and related internationally recognized standards to be followed when assessing and/or directing actions in outer space, should, as a general rule, refrain from applying to foreign space objects methods and techniques that they themselves would not deem pertinent and/or acceptable as applied to their own space objects.

States and international intergovernmental organizations, especially those that have relevant capacities and practices, should annually file with the Office for Outer Space Affairs of the Secretariat valid statements and, as necessary, supplements/updates thereto, containing, in a generalized form, their assessment of the situation in outer space from the perspective of strategic considerations as well as characteristics (as detailed as they deem necessary) of the status of near-Earth outer space as an operating environment: specifically, phenomena and events which influence the security of outer space and should be comprehensively considered in evaluating threats and hazards for space activities.

- **Approaches to shaping the information environment**

21. Jointly defining the range of risks and threats that occur or can occur in outer space would promote endorsement of a basic understanding of ways and means of preventing them. Modelling responses to highest-priority risks and threats acquires particular importance. Such work would help to better understand how to ensure the conditions for the response to be adaptable to risks and threats in practical and international legal respects, and to ascertain what would be the main and backup response modes. Issues that are topical for the regulation of the safety and security of space activities cover a broad spectrum. Many of them (e.g. those related to

special actions with the use of ICTs) have not been sufficiently studied and remain predominantly outside international legal assessment. The situation in the near-Earth orbit is the result of the complex interaction of all kinds of factors conditioned by possible intentional influences on space objects, by space weather and space debris influence, as well as by technical failures due to technological imperfection. Most countries do not have the technology to effectively monitor the constantly changing situation in orbit. As a consequence, they are constrained in choosing acceptable and reasonable solutions. New approaches should be applied in the information sphere to advance the integration of all necessary information in one single complex that is useful in terms of functions for the purposes of maintaining stability in outer space. The unified centre for information on near-Earth space monitoring proposed by the Russian Federation for establishment under the auspices of the United Nations would be capable of introducing the necessary changes to the existing informational and operational paradigm and providing the international community with the fullest possible aggregate perception of a situation in outer space. Concerting efforts in this direction could give rise to a dedicated political process of reinforcing confidence and predictability in outer space with the emphasis on collective security sustainment capabilities and procedures.

- **Concluding comment**

22. States members of the Committee, acting on a specified platform with the help of agreed instruments and consistently creating ever-expanding points for a political dialogue, could collectively promote agreement on basic views on relevant aspects of security and stability in outer space, having thought through and foreseen modalities or even a "roadmap" of solutions to vital issues essential for predetermining the stability of the system for preserving peace in this sphere in the security environment of the twenty-first century. The opportunities are there to come to an agreement and, ideally, to act as partners in this sphere. Given interest, those opportunities can and must be realized. The forthcoming 50th anniversary of the 1967 Outer Space Treaty could give a sense of direction for drafting and, possibly, adopting a relevant joint instrument.

Annex

Tentative classification of situations in outer space that may provoke conflicts

<table>
<tr><th colspan="3">I. GENERAL DESCRIPTION OF SITUATIONS</th></tr>
<tr><td colspan="2">Situations, or preconditions for the creation of situations, that are not connected with extreme events and critical conditions but can impel the suffering party (party affected by such events and conditions) to take response actions (remedial or more active); such situations may result from coincidence or be triggered by "unfriendly" actions aimed either at gaining, including through "mediator actors", competitive advantages, or at conducting activities with the purpose of tracking and/or influencing events in outer space.</td><td>Extraordinary (in technical, political and/or international legal terms) situations, in which a space object and/or related infrastructure experiences critical or near-to-critical unauthorized external impact.</td></tr>
<tr><th colspan="3">DETAILED DESCRIPTION OF SITUATIONS</th></tr>
<tr><td>Separate instances of performing short-duration actions with respect to foreign space objects that do not appear to testify to an intent to advance or risk a conflict, and may, in particular, include:
- approaching a foreign space object at a close distance with no intention of exerting physical impact, for example, with the purpose of "inspection" (unauthorized collection of information);
- creating interference in the space radio links of a foreign space object that exceeds thresholds set by the norms of the International Telecommunication Union, without causing a serious disruption of the functioning mode;
- placing a significant amount of extra small (poorly tracked by monitoring facilities) space objects in intensely used areas of near-Earth space.
Such actions lead to relatively insignificant complications in operation.
There is also a possibility of separate instances of unexpected (unpredicted) developments related, in particular, to:
- system failures and breakdowns (caused, inter alia, by perturbations of space weather) and, as a result, loss of control over a space object or loss of the ability to receive information from a space object;</td><td>Established (technically confirmed) persistent/long-duration "unfriendly" actions, resulting in the limitation of a space object's functioning capacities.</td><td>Rigid and deliberate aggressive/ malicious actions, after which the conflict takes/may take the form of confrontation.</td></tr>
</table>

- inadequate assessment of technogenic risks in near-Earth space.		
2. ACTIONS LEADING TO THE SITUATIONS		
Actions which can potentially hinder the normal operation and use of a foreign space object and/or its related infrastructure: - approaches to a foreign space object and presence in dangerous proximity to it; - placement of own space object near a foreign space object and the use of the same radio frequency band in violation of arrangements (protocols) resulting from coordination between telecommunication administrations; - unintentional provision of unreliable information on objects and events in near-Earth space.	Actions hindering normal operation and use of a foreign space object and/or its related infrastructure: - modification of the space environment by means of generation of electromagnetic radiation, dispersion of aerosols and through the use of other means; - intentional provision of unreliable (misleading) information on objects and events in near-Earth space.	Actions preventing the normal operation and use of a foreign space object and/or its related infrastructure: - physical (kinetic or other) impact; - use of special information and communication technologies (e.g. seizure of control of a foreign space object, use of software and hardware to affect functional state and functional characteristics of a space object).
3. TECHNICAL IMPLICATIONS OF THE SITUATIONS		
Deterioration in the performance of a space object: - reduced operational lifetime of a space object; - impossibility of receiving information from the space object; - temporary suspension of the use of ground-based systems for controlling a space object; - loss of operational capability of a space object.	Deterioration in the performance/ incapacitation of a space object, infliction of considerable damage to its operation: - significant shortening of operational lifetime of a space object; - serious deterioration of functional characteristics; - impossibility of receiving information from a space object; - long-duration suspension of the use of ground-based systems for controlling a space object; - inoperability of a space object.	Failure in operation (irretrievable loss) of a foreign space object and/or its related infrastructure. Chaotization of the situation in outer space, including (as a result) a sharp increase in the amount of space debris.